

Date: Thursday, 04/12/2008 9:10:52 AM
 User: Julie Dawson

Process Sheet

split

Customer : CU-DAR001 Dart Helicopters Services
 Job Number : 43901-1
 Estimate Number : 13065
 P.O. Number :
 This Issue : 04/12/2008 S.O. No. :
 Prsht Rev. : NC
 First Issue : 1/1 Type : PURCHASED PARTS
 Previous Run : 35828
 Drawing Name : GAS SPRING
 Part Number : D2807041
 Drawing Number : D2807 REV E
 Project Number : N/A
 Drawing Revision : E
 Material :
 Due Date : 21/12/2008 Qty: 30 Um: Each
 Written By :
 Checked & Approved By : JLD 08.12.05
 Comment : Est: D 07.11.12 ecn1019, replaces D2807 EC verified by DD
 Est Rev:E 08-02-12 ECN 1111 DD verified by: ec

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description :

1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 7765

C 208112/04

Order as per Dwg D2807

Possible supplier: Lift Support Technologies, Saskatoon, Canada

(40)

P/N 6/15-164/50-115N

Material release note is required

2.0

615 16450 115N

Gas Spring



Comment: Qty.: 1.0000 Each(s)/Unit Total: 40.0000 Each(s)

SUPPORT PROP

3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect for Transit Damage

Ensure Material Release Note is attached

9/01/12 (30)
 2090128
 QSP019

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

5.0

D36711

Placard



Comment: Qty.: 1.0000 Each(s)/Unit Total: 40.0000 Each(s)

PLACARD

batch: B43945 (12) B38205 (29x)

2090128
 9/01/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No. DZ807-041 PAR #: Fault Category: NCR: Yes ☐ No ☒ DQA: Date: 09/02/02

Resolution: Disposition: QA: N/C Closed: Date:

NCR: <u>43901-1</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
09.01.28	4.10	AISI 304 USED INSTEAD OF 303	CP 09.01.28 PC QSI 042	Acceptable	CP 09.01.28 PC QSI 042	09-01-28	CP 09.01.28 PC QSI 042	09-01-28

NOTE: Date & initial all entries

Date: Thursday, 04/12/2008 9:10:52 AM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: GAS SPRING

Job Number: 43901

Part Number: D2807041

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-install D3671-1 as per dwg D2807

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

ST48

9.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



4 09.01.30

09/01/28 (30)

09/01/28 (30) counters

09/01/28 (30)

09/02/02

SPECIFICATION CONTROL DRAWING



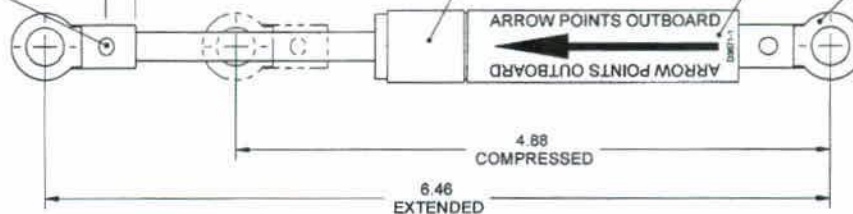
(ALTERNATE ONLY)
CRIMP 0.015-0.025 DEEP
WITH $\phi 0.375$ TOOL AT
2000psi (REF) TYP TWO
SIDES PER LUG

0.24 TO CRIMP
(TYP)

D2807-5
OR
(ALTERNATE ONLY) D2807-1

AFFIX D3671-1 PLACARD
ENSURE PLACARD DOES NOT
CONCEAL ANY TEXT OR MARKINGS
ON THE GAS SPRING

(ALTERNATE ONLY) D2807-3
BOTH ENDS



D2807-041 GAS SPRING

D2807-041 GAS SPRING ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D2807-041	GAS SPRING ASSEMBLY
1	D2807-5	GAS SPRING
1	D3671-1	PLACARD

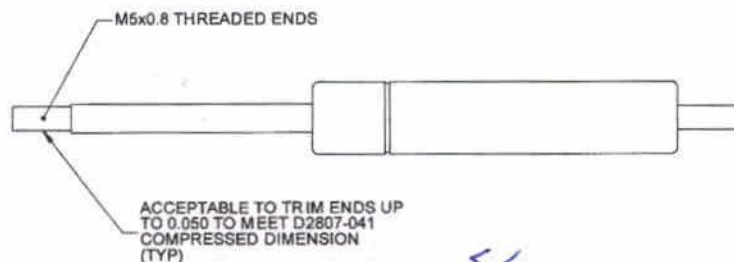
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.169 LBS
- 8) ALTERNATE PART: D2807-5 CAN BE MADE FROM ASSEMBLING D2807-1 (1) AND D2807-3 (2)
(WEIGHT: 0.176 LBS)

43901

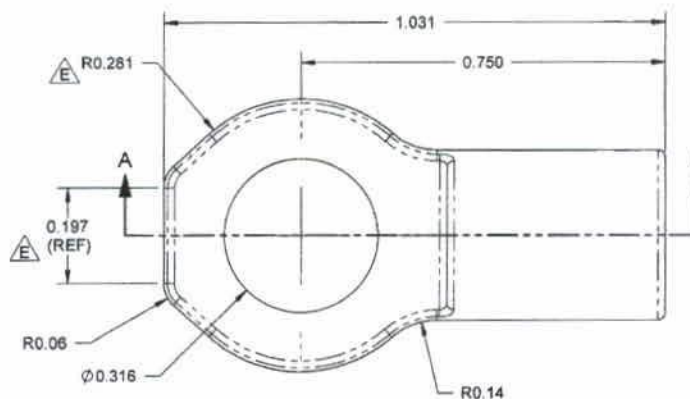
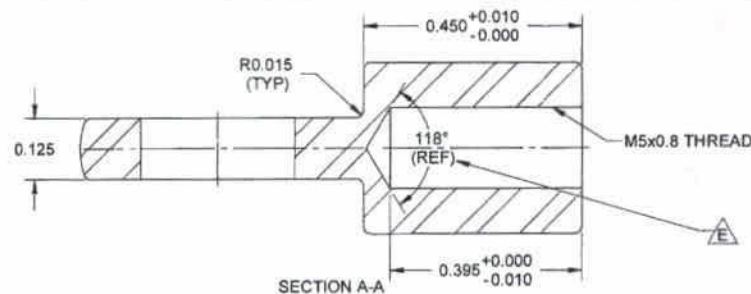
RELEASED
05-12-2000

E	ADD D2807-5 GAS SPRING; D2807-1/-3 ASSEMBLY IS AN ALTERNATE TO D2807-5 GAS SPRING; UPDATE DIMENSIONS ON D2807-3	PH	07.12.28
D	ADDED D3671-1 PLACARD ADDED -041 ASSEMBLY UPDATED DWG	DC	07.09.27
C	CHANGE SPRING TO SS, ADD -3 LUG	CP	05.05.25
B	ADD FINISH	CP	05.03.16
A	NEW ISSUE	DS	00.11.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AW		
CHECKED	LE	DRAWING NO.	REV. E
MFG. APPR.	M	D2807	SHEET 1 OF 3
APPROVED	M	TITLE	SCALE
DE APPR.	H	GAS SPRING	NTS
DATE	07.12.28	<small>COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

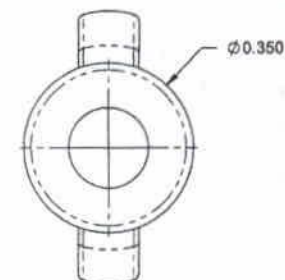


D2807-1 GAS SPRING
SCALE 1:1

43901



D2807-3 LUG



D2807-1 GAS SPRING NOTES:

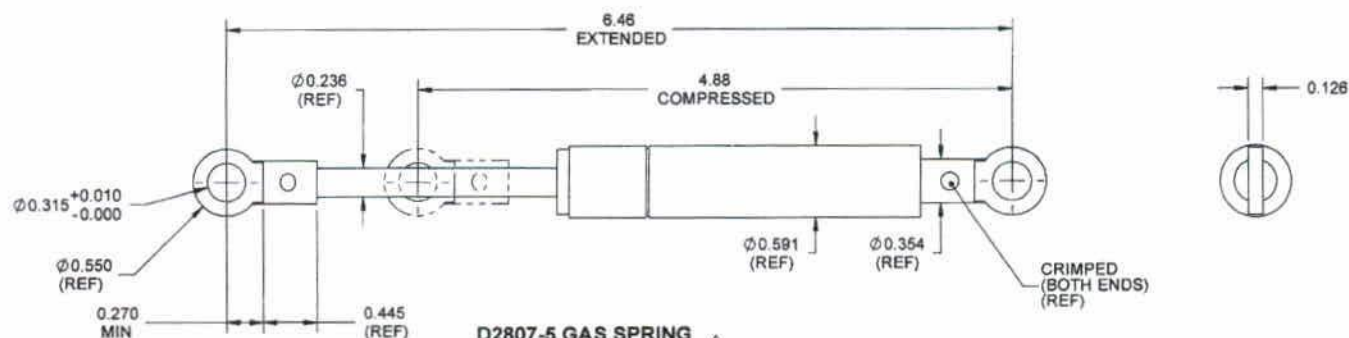
- 1) POSSIBLE SUPPLIER: ARVINMERITOR MOTION CONTROL SYSTEMS, LEICESTER, UK
(P/N SXF6S6050080S6L-115N)
(REF: 80MM LONG CYLINDER, 50MM STROKE, 115N LOAD)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.144 LBS
- 8) SPECIFICATION: SS GAS SPRING
ACCEPTABLE LOAD RANGE IS 25 LB (115 N) MIN TO 45 LB (200 N) MAX
M5x0.8 THREADS

D2807-3 LUG NOTES:

- 1) MATERIAL: AISI 303 ROUND BAR (REF. DART SPEC. M303R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.015
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.016 LBS

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	PH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	LE	DRAWING NO.	REV. E
MFG. APPR.		D2807	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		GAS SPRING	4:1
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RELEASED



D2807-5 GAS SPRING

43901

RELEASED
08-12-12

D2807-5 GAS SPRING NOTES:

- 1) POSSIBLE SUPPLIER: LIFT SUPPORT TECHNOLOGIES, SASKATOON, CANADA (P/N 6/15-164/50-115N)
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.169 LBS
- 8) SPECIFICATION: SS GAS SPRING WITH END FITTINGS, ACCEPTABLE LOAD RANGE 25 LB (115 N) MIN TO 45 LB (200 N) MAX

DESIGN	PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	PH		
CHECKED	HE	DRAWING NO. D2807	REV. E
MFG. APPR.	HE	SHEET 3 OF 3	
APPROVED	HE	TITLE	SCALE
DE APPR.	HE	GAS SPRING	4:1
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LS Technologies Canada Inc.

303 - 103 Street
Saskatoon, SK
S7N 1Y9

Packing Slip

Date	Packing Slip #
1/9/2009	4663

Name / Address
Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada

Ship To
Main Finished Goods Location Dart Aerospace Ltd 1270 Aberdeen St. Hawkesbury, ON K6A 1K7 Canada

P.O. No.	Rep	Ship Date	Ship Via
7765	Nolan	1/9/2009	

Qty	Description
30	D2807 - 6/15-056-168-115N Stainless Gas Spring Shipping via PUROLATOR Collect - Tracking #329062302735 Please update your records with our new address: LS Technologies Inc 303 - 103 Street Saskatoon, SK S7N 1Y9 Total GST Business Number: 875007718
Please remit to above address. Thank you for the business.	

S
09/01/13



P.O. Box 25032, Saskatoon, Saskatchewan, Canada S7K 8B7
Ph: (306) 683-5000 Fax: (306) 683-6403
E-mail: info@lsttechnologies.ca
Web: www.lsttechnologies.ca

Certificate of Compliance

This is to certify that the parts listed below meets specifications as required by your order.

30 Units: D2807 – 615 16450 115N Gas Spring

Country of Manufacture: Canada
Date of Manufacture : 2008
This product is ROHS compliant.

S
2/2/13

We certify no mercury was used in the manufacture of this order.

Purchase Order # 00007765
Invoice # 4663

L S Technologies Inc Canada

A handwritten signature in black ink, appearing to be "Nolan Fehr".

Nolan Fehr
Manager



P.O. Box 25032, Saskatoon, Saskatchewan, Canada S7K 8B7
Ph: (306) 683-5000 Fax: (306) 683-6403
E-mail: info@lsttechnologies.ca
Web: www.lsttechnologies.ca

Certificate of Compliance

This is to certify that the parts listed below meets specifications as required by your order.

30 Units: D2807 - 615 16450 115N Gas Spring

Manufactured from 304 Stainless Steel

Country of Manufacture: Canada

Date of Manufacture : 2008

This product is ROHS compliant.

09-01-26

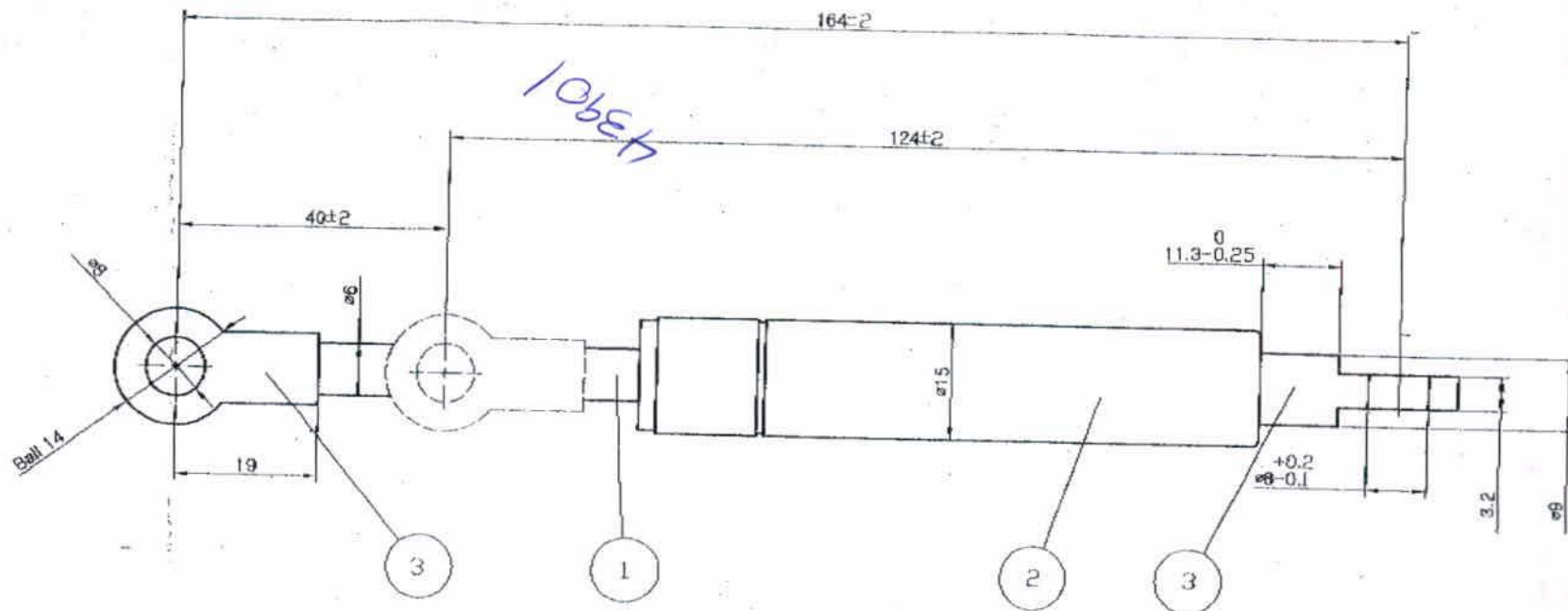
We certify no mercury was used in the manufacture of this order.

Purchase Order # 00007765

Invoice # 4663

L S Technologies Inc Canada

Nolan Fehr
Manager



Note

1. Force

All force are collected to 20±2C

$$1) F_t = (F_1 + F_2) / 2 = 115N \pm 20N$$

$$2) F_c = (F_3 + F_4) / 2 = 120(REF)$$

$$3) F_r = F_3 - F_4 = \text{Max}: 20N$$

2. Appearance

No Harmful crack and scratch is not allowed.

All leakage is not allowed.

3. Application temperature range: -20-90° c

4. Durability test

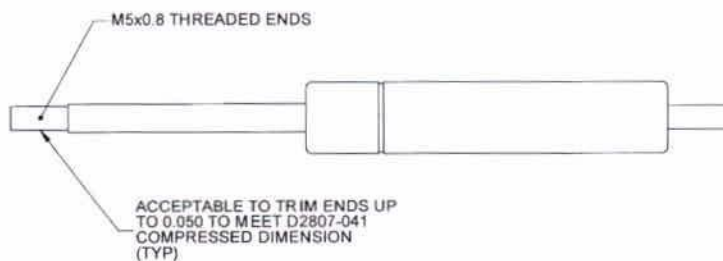
After 20,000 cycles at room temperature (-20-90° c)

1) Unit must operated normally

2) Change rate of force is no more than 10% of initial value.

Revision Contents						
NO	Date	Contents	Check	Desing	Part Name	Material
1				Check		
2				Approval		
3				Company		
4				Model		
5						

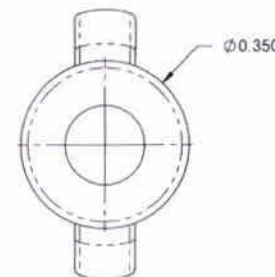
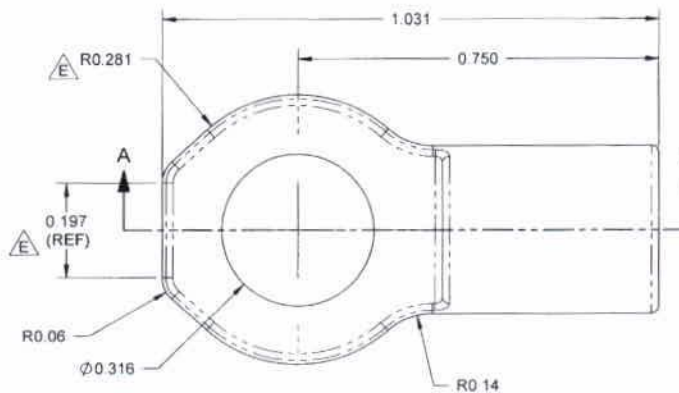
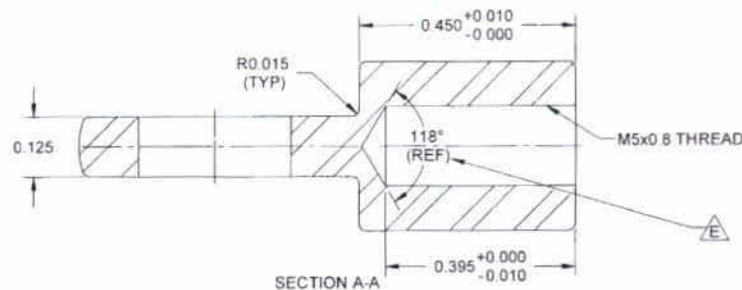
③	2	End Eye		SUS304
②	1	Cylind		SUS304
①	1	Rod		SUS304
NO	Qty	Part Name	Code No	Material
			Part Name	G
			Part No	
			Date	
			CANADA	
			6/15-164/50-115N	



D2807-1 GAS SPRING
SCALE 1:1

D2807-1 GAS SPRING NOTES:

- 1) POSSIBLE SUPPLIER: ARVINMERITOR MOTION CONTROL SYSTEMS, LEICESTER, UK
(P/N SXF6S6050080S6L-115N)
(REF: 80MM LONG CYLINDER, 50MM STROKE, 115N LOAD)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.144 LBS
- 8) SPECIFICATION: SS GAS SPRING
ACCEPTABLE LOAD RANGE IS 25 LB (115 N) MIN TO 45 LB (200 N) MAX.
M5x0.8 THREADS



D2807-3 LUG

D2807-3 LUG NOTES:

- 1) MATERIAL: AISI 303 ROUND BAR (REF. DART SPEC. M303R)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.015
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.016 LBS

DESIGN	PH	DART AEROSPACE LTD	
DRAWN	PH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO	REV. E
MFG. APPR	PH	D2807	SHEET 2 OF 3
APPROVED	PH	TITLE	SCALE
DE APPR	PH	GAS SPRING	4:1
DATE	07.12.28	COPYRIGHT © 2000 BY DART AEROSPACE LTD	

43901

304 material

REV. E